

III. REMARKS

1. Claim 18 is amended to address the objection and rejection under 35 USC §112, second paragraph.

Claims 19 and 20 are new.

2. It is submitted that claims 1, 2, 10 and 18 are not indefinite and should not be rejected under 35 USC 112, second paragraph.

Claim 1 recites a mobile communication terminal that has a loudspeaker. The terminal also includes an amplifier and an equalizer. This is schematically illustrated in Figure 2. The frequency selective attenuation can be decreased so that the volume of sound reproduced by the loudspeaker can be increased, even though a maximum amplification by the amplifier has been reached. These elements are not contradictory.

When the maximum amplification by the amplifier is reached, clearly, further amplification by the amplifier is not possible. However, to continue to be able to increase the volume produced by the loudspeaker, the "frequency selective attenuation" is reduced or gradually eliminated. The produces additional volume from the loudspeaker.

The typical loudspeaker frequency response is such that frequency selective attenuation by the equalizer is highest in the mid-range frequencies. (see e.g. page 4, lines 6-16.) Reducing the frequency selective attenuation increases the volume in the mid-range frequencies and the intelligibility of the speech signal reproduced.

The amplifier setting is generally at its maximum at a high volume setting. (page 10, lines 1-5). For volume settings above the setting at which the maximum amplification is reached, the frequency selective attenuation of the equalizer is reduced. The setting for the amplifier is maintained at the maximum amplification. The interrupted line 2 in

Fig. 1 shows the corresponding frequency response of the loudspeaker. (page 10, lines 6-12).

In view of the foregoing, it is submitted that the claim limitations of claims 1 and 10 are not contradictory.

Claim 2 recites that the frequency selective attenuation is decreased by decreasing the attenuation for all frequencies reproduced. This limitation is not contradictory. Indeed, there is "frequency selective attenuation." However, there is nothing in Applicant's disclosure, or what is known in the art, that would indicate that not "all reproduced" frequencies can be subject to attenuation. It should be noted that when the control unit receives a signal to be reproduced, the frequency response of the loudspeaker is adapted to emphasize the low-frequency part of the sound to be reproduced and preferably also then high frequency part of the sound to be reproduced. (page 11, lines 14-24). Thus, it is quite clear from the claim language that the "frequency selective attenuation" is applied to the "frequencies reproduced." There is nothing contradictory in the claim language.

3. Claims 1-11, 13-14 and 18 are not anticipated by Koski et al. ("Koski") under 35 USC 102(b).

Claim 1 recites an equalizer for at least partially compensating the non-flat frequency response of said loudspeaker through frequency selective attenuation, characterized by comprising means for decreasing said frequency selective attenuation to increase the volume of the sound reproduced by said loudspeaker when a maximum amplification by said amplifier has already been reached. This is not disclosed or suggested by Koski. In Koski, the control block 15 receives information about the position of the sound volume control. A loud volume setting makes the control block 15 decrease factor K, while a quiet volume setting makes the control block increase that same factor. (Col. 6,

lines 15-22). The factor "K" corresponds to "equalization gain" in the filter construction. (Col. 5, lines 42-48.) What is not disclosed or suggested in Koski is that when a "maximum amplification" is reached, the "frequency selective attenuation" is decreased as recited in claim 1. Thus, claim 1 cannot be anticipated. Claims 8, 11 and 18 are similarly not anticipated. Claims 2-7, 9-10, 12-17 and 19-20 should be allowable at least by reason of their respective dependencies.

Koski is directed to equalization of a speech signal in a mobile phone in order to improve the intelligibility of the transmitted speech. Applicant's claimed subject matter is directed to providing an optimum frequency response characteristic and a high obtainable maximum volume. Thus, Applicant's claims recite decreasing the frequency selective attenuation to increase the volume of the sound produced by the loudspeaker when a maximum amplification by the amplifier has already been reached. Koski only discloses that when the volume setting is high, the equalization gain is decreased, and that when the volume setting is low, the equalization gain is increased.

In claim 2, Applicant recites that the frequency selective attenuation is decreased by decreasing the attenuation for all frequencies reproduced. Koski only discloses that if an equalizer block is used, the loud volume setting makes the control block 15 decrease the factor K and a quiet volume setting makes the control block increase factor K. (Col. 6, lines 18-22). This is not what is claimed by Applicant.

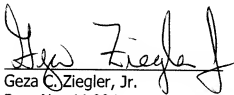
4. Claim 12 is not unpatentable over Koski under 35 USC §103(a) at least by reason of its respective dependency.
5. Claim 15 is not unpatentable over Koski in view of Kirkeby under 35 USC §103(a) at least by reason of its dependency.
6. Claim 16 is not unpatentable over Koski in view of Fincham under 35 USC §103(a) at least by reason of its dependency.

7. Claim 17 is not unpatentable over Koski and Umemoto under 35 USC §103(a) at least be reason of its dependency.


For the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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